

Managing construction noise

Roads and Maritime Services | September 2018

We recognise construction noise can be a major annoyance, especially in residential areas. We are committed to mitigating and limiting construction noise impacts, wherever possible.

What is noise?

We define noise as 'unwanted sound'. Noise is perceived differently from one person to the next and is measured on a scale of units called decibels. We assess noise by averaging the quietest and loudest (actual or predicted) measurements while also considering how the human ear perceives it.

What is construction noise?

Construction noise is unwanted sound caused by construction works or activities. It is temporary and often changes as construction activities change and work progresses.

Construction activities that have the potential to generate unwanted noise or vibration include:

- Major earthwork activities
- Project vehicle movements
- Reversing alarms and beepers
- Controlled blasting
- Rock hammering and crushing
- Bridge construction
- Installation of piles
- Concrete manufacturing
- Asphaltting and concreting
- Sawcutting and breaking of rock and concrete
- Loading, unloading or moving equipment and construction materials
- Tunneling.

Construction noise guidelines and criteria

Our assessment and management of construction noise is guided by five key documents:

- *Environmental Planning & Assessment Act 1979 (EP&A Act)*
- *Protection of the Environment Operations Act 1997 (PoEO Act)*
- *Department of Environment and Climate Change NSW Interim Construction Noise Guidelines (2009)*
- *Roads and Maritime Construction Noise and Vibration Guideline (2016)*
- *Australian Standards AS2346 - Guide to noise control on construction, maintenance and demolition site (2010).*

Together, these documents provide noise criteria and guidelines which we use when managing construction noise during the delivery of our projects.

How we assess construction noise and vibration impact

Potential construction noise issues are considered and assessed during project planning and development.

We carry out background noise measurements and prepare impact assessments that consider the distance from the work area to sensitive receivers. Where noise may exceed guidelines and is likely to adversely impact sensitive receivers, we actively seek management measures to reduce noise and vibration impacts and aim to proactively communicate with and advise potentially affected people.

Large or complex projects are assessed in greater detail than small or short duration projects due to the longer duration of potential noise impacts.

How do we manage construction noise and vibration?

We prepare a noise and vibration management plan for each project to document how we will work to reduce construction noise and vibration. It includes:

- Identification of potentially impacted stakeholders (residential and business)
- An outline of all construction noise conditions and requirements
- Details of all mitigation measures that will be implemented in areas where the construction noise and vibration impact may exceed guidelines
- Procedures for managing noise and providing respite periods when works at night and early in the morning are required.

How do we reduce construction noise and vibration impacts?

Mitigation measures adopted to reduce and manage noise and vibration during construction may include:

- Maximising the distance between noisy equipment and residential areas
- Scheduling noisy work at less sensitive time periods (such as during normal daytime work hours where possible)
- Regular maintenance of equipment
- Installing noise control equipment on machinery and tools
- Noise compliance monitoring
- Locating compounds, stockpiles and crushing plants as far as possible away from residential areas
- Use of temporary noise barriers
- Scheduling respite periods for high noise activities, such as rock crushing (such as two hours on, two hours off)
- Installing noise mitigation treatments designed for road traffic noise as early as possible to provide additional relief during construction

- Scheduling noise generating activities outside of school examination periods
- Providing advanced notice of planned noisy work to neighboring communities to help them plan
- Use of multiple explosive charges of the smallest possible size in sequenced detonation rather than single large blasts.

Unfortunately, in some instances, we have limited options available to reduce noise impacts given the type and range of machinery and equipment required to carry out the tasks. Where noise is excessive and prolonged, respite periods will be scheduled to provide some relief to neighbours.

Out of hours work

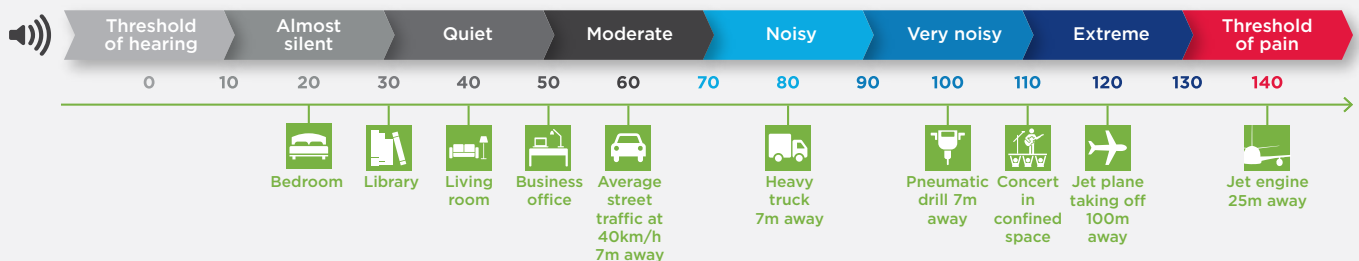
Work is carried out during standard construction hours (from 7am to 6pm Monday to Friday and from 8am to 1pm on Saturdays) wherever possible. However, 'out of hours' work, (at night and early in the morning) may also be required where it is necessary to close roads or traffic lanes for major construction activities (such as resurfacing or installing bridges), to ensure the safety of our workers or to minimise impacts to peak period commuter traffic.

Activities that may occur outside standard hours include, but are not limited to:

- Delivery of large or oversize machinery, prefabricated elements and construction materials
- Bridge work:
 - Lifting and setting of bridge span and beams
 - Demolition of existing bridges
- Utility relocation such as telephone, water, power or sewerage
- Emergency work
- Any work such as grinding and asphaltting requiring full or partial road closures, to minimise impact on road users and allow for safe separation of workers and traffic.



Sound levels in decibels (approximate)



September 2018
RMS 15.221



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